# Accident / Incident Report Closed

| Unit/Department | Process Area | Site | Report Number |
|---|---|---|---|
| **North Operations-Elyria** | **Copper - Building 10** | **ELYRIA** | **0084-NOPS-14-0074** |
| Report Date | Incident Date | Incident Time | Copied From |
| **05/27/2014** | **05/27/2014** | **03:00 PM** | |
| Incident Location | | Team Leader / Supervisor | Reported By |
| **North Production, Copper, PK Blender Dust Collector Stack** | | **Thomas Copa** | **Charles Evans** |
| Title of Event (Limit to 90 characters) | | Category | Division / Bus. Group / Subgroup Code |
| **Material release on roof and between buildings 10 and 24 in alley from PK Blender dust collector stack.** | | ☐ Safety & Health<br>☐ Environmental | **CC / G-CCP** |

Incident Classification

| | | |
|---|---|---|
| ☐ Near Miss | ☐ Property Loss | ☐ Contractor |
| ☐ Process Safety | ☐ Citation / NOV | ☐ Contractor Injury / Illness |
| ☐ Injury / Illness | ☐ Health Exposure | ☐ Contract Injury / Illness |
| ☒ Spill / Release | ☐ Inspection | ☐ PSM |
| ☐ Permit / Regulatory Deviation | ☐ Major Incident | ☐ Plant Upset |
| ☐ Fire | ☐ Non-Occupational | ☐ EHS Management System Failure |
| ☐ Odor Complaint | ☐ RMP | ☐ Other |

Describe Event / What Happened

**Operators that were running the PK blender in the copper department noticed that there was a green colored film in the alley outside of the Copper department. This would be the OXY8C(Oxychlor) that was currently running through the blender and the PK blender dust collector. Once noticed, operators immediately shut the dust collector and blender off. At this time it was determined by operators and a engineer that was in the department at the time of incident. About 6 lb's discharged from the dust collector stack on building 10, onto the roof and below to the alley between buildings #10 and #24.**

Immediate Corrective Action or Response

**Shut all related machinery down. Cleaned alley with zamboni.**

Immediate Cause

**PK dust collector cartridge failure.**

| Spill Release Type(s) | **Non RQ Spill / Release** | | | | | | |
|---|---|---|---|---|---|---|---|
| Chemical(s) Involved | CAS # | Phy. State | Air | Land | Water | Contmt | Units |
| Oxy 8c Oxychlor | N/A | Solid | 6 | 0 | 0 | 0 | lbs |

| Disposition of Material | **Material cleaned up and disposed of into hazardous waste drum. Area also cleaned with Tennent scrubber.** | | | |
|---|---|---|---|---|
| Weather Conditions | Skies: **Partly Cloudy** | Temperature: **70 F** | Wind Direction: **SW** | Wind Speed: **5** |

Cause Narrative

**Confirmed from investigating, the cause of the material release from the PK dust collector was that three of the cartridges failed. Two of the cartriges had rips and holes throughout. The third cartridge had fallen off of the cone which is attached to the tube sheet at the top of the dust collector. These issues are what caused the material to escape out of the stack.**

| Contributing Causes | Root/Primary Causes | | |
|---|---|---|---|
| As it stands, there's a yearly PM in place. There is no visual schedule of the inner dust collector. | 28 - Equipment Reliability Program Implementation LTA | 51 - Routine Equipment Rounds LTA | 52 - Frequency LTA |
| Due to Copper staffing restraints. The changing | 138 - Human | 155 - Workload | 157 - Unrealistic Monitoring |

| | | |
|---|---|---|
| of cartridges for dust collectors is time consuming. | Factors Engineering | Requirements |

Explanation of Root Causes

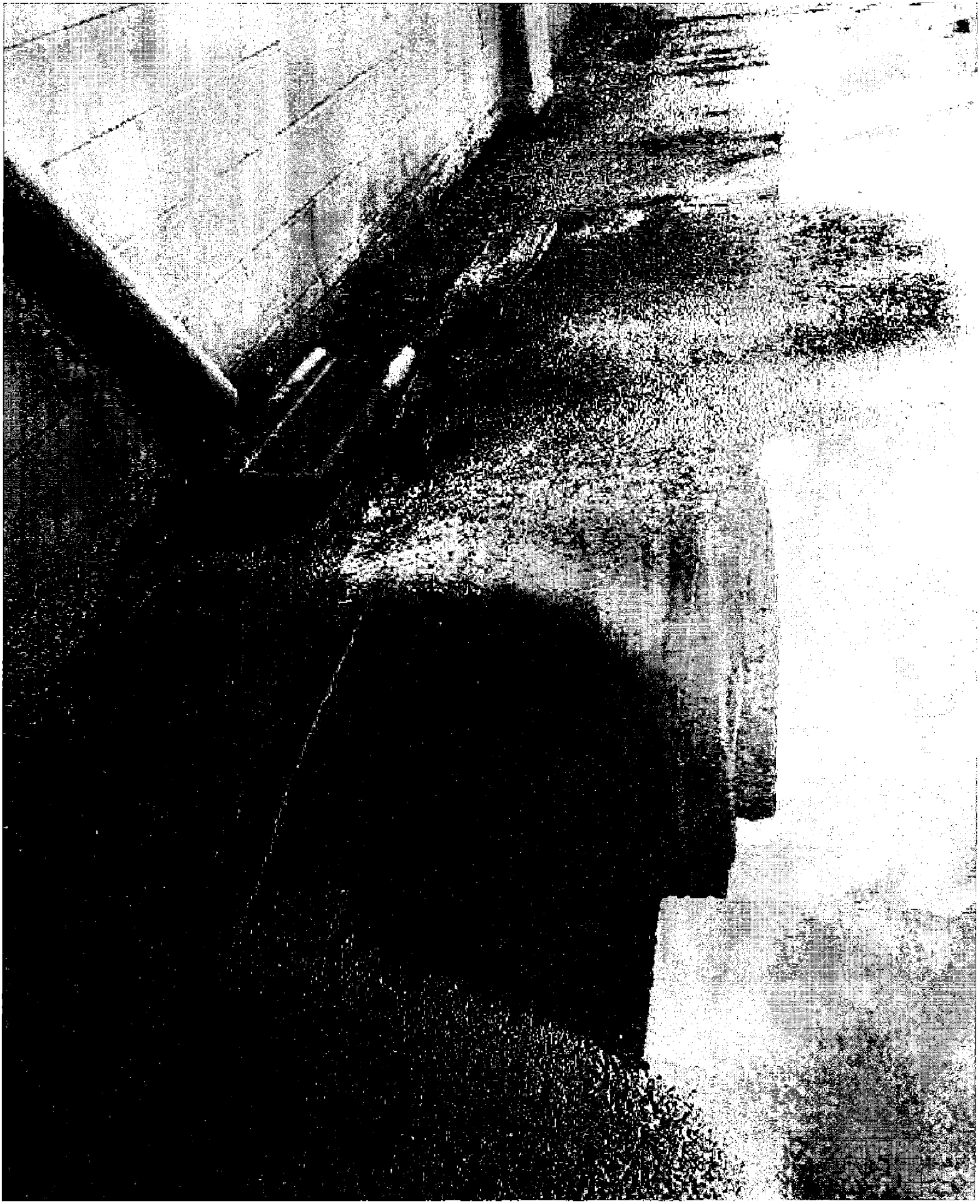
**28/51/52-It's been 2 years since the cartridges were changed out. If the cartridges would had been inspected on a schedule. It may have prevented the release.**
**138/155/157-Contractors will perform the changing of cartridges in the PK dust collector to ensure timely PM schedules.**

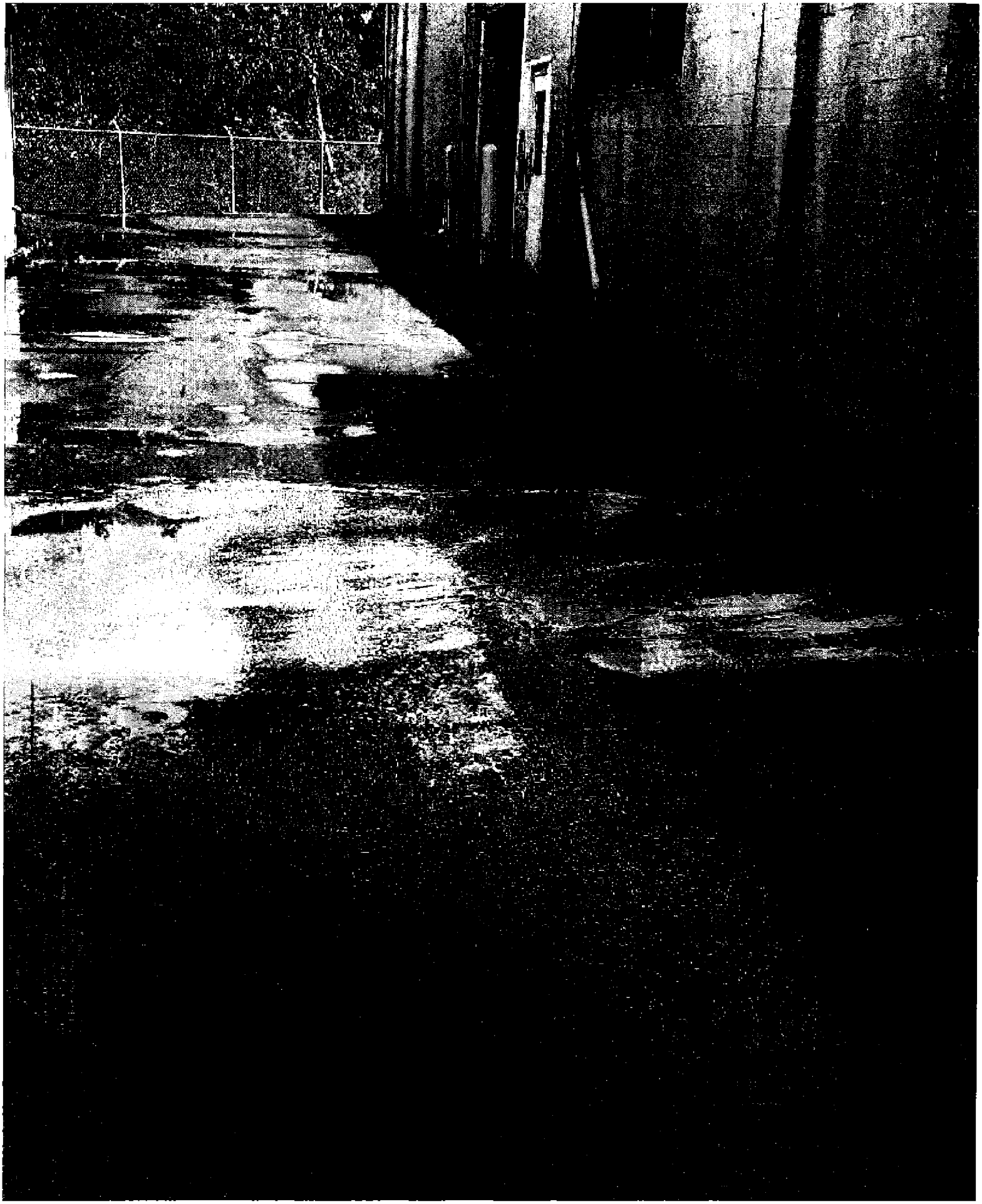
| | | | | | |
|---|---|---|---|---|---|
| Any known or potential off-site impacts? | **No** | PSM Incident? | **No** | Estimated Cost: | **2,000.00 USD** |
| Investigation Team | **Thomas Copa; Charles Evans; Noemi Trent; Jennifer Bailey** | | | | |

| Item | Corrective Action(s) to prevent recurrence | Responsible Person | Target Date | Final Closed Date | VC Req | VE Req |
|---|---|---|---|---|---|---|
| 1 | A:Schedule contractors to change out the cartridges to the dust collector as required to the PM scheduled date. | Gregory A Menz/BASF-CATALYSTS/BASF | 05/30/2014 | 05/29/2014 | N | N |
| 2 | B: Implement a schedule for copper operators to inspect the cartridges in the dust collector quarterly. | Thomas Copa/NA/BASF | 06/06/2014 | 06/06/2014 | N | N |

Approved By:

| | |
|---|---|
| Manager / Dept. Head | **Abdallah Ahmed 07/01/2014 09:40 AM** |
| EHS Unit Coordinator | **Tim Anglin 06/26/2014 01:39 PM** |
| | **Confidential** |





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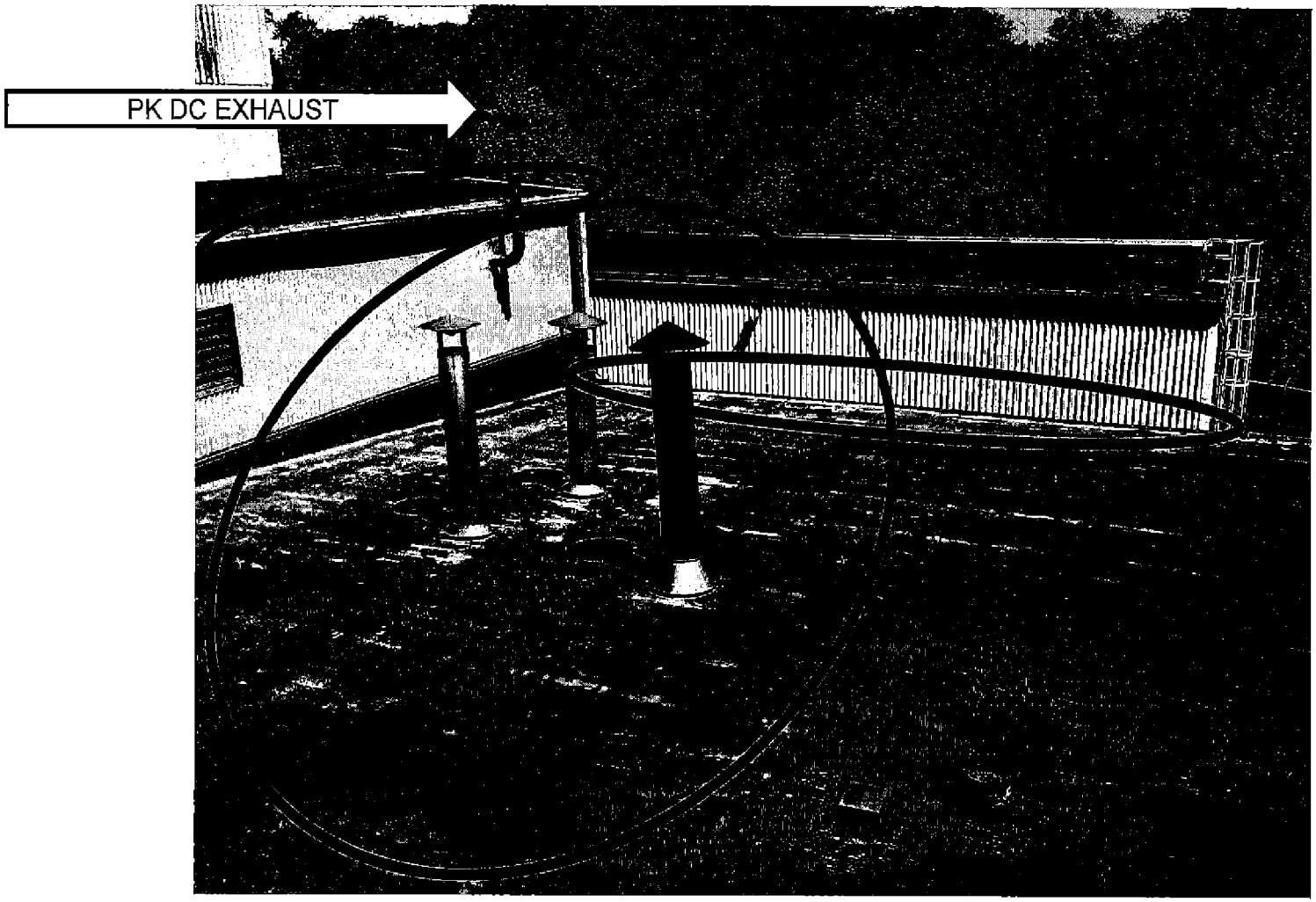
## The Roof and Gutters will be cleaned out by contractors.



BASF
The Chemical Company

# Safety Data Sheet
## OxyVinyls® Oxychlor® 8C



## 1. Product and Company Identification

Use: Chemical

Company
BASF Mexicana S.A. de C.V.
Av. Insurgentes Sur 975
Col. CD. De Los Deportes, DF 03710,
MEXICO

24 Hour Emergency Response Information
Tel.: +1-800-849-5204 or +1-833-229-1000
CHEMTREC Int.: +1-703-527-3887

## 2. Hazards Identification

**Emergency overview**

WARNING:
PROLONGED OR REPEATED EXPOSURE MAY CAUSE LUNG DAMAGE.
Contact with powders or dusts may irritate the eyes, skin and respiratory tract.
HARMFUL IF SWALLOWED.
MAY CAUSE PAIN, NAUSEA, VOMITING AND DIARRHEA.
Prolonged or excessive exposure may result in copper poisoning.
Overexposure may cause liver and kidney damage, and blood disorders.

State of matter: solid
Colour: light green
Odour: acidic

**Potential health effects**

**Primary routes of exposure:**
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

**Acute toxicity:**
Inhalation of particulates may cause respiratory tract irritation. Exposure to high concentrations may cause coughing and difficulty breathing. May result in symptoms similar to those of the common cold. Harmful if swallowed. May cause metallic taste in mouth. May cause pain, nausea, vomiting and diarrhea. May cause shock. The product has not been tested. The statement has been derived from the properties of the individual components.

**Irritation / corrosion:**
Contact with powders or dusts may irritate the eyes, skin and respiratory tract. The product has not been tested. The statement has been derived from the properties of the individual components.

**Chronic toxicity:**

**Repeated dose toxicity:** Prolonged and repeated exposure may cause lung damage. Prolonged or excessive exposure may result in copper poisoning. Prolonged and repeated exposure may cause blood disorders. May cause liver and kidney damage. The product has not been tested. The statement has been derived from the properties of the individual components.

**Medical conditions aggravated by overexposure:**
Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures. Individuals with preexisting blood disorders may be severely affected by exposure. Individuals with pre-existing diseases of the liver or kidneys may have increased susceptibility to excessive exposures.

**Signs and symptoms of overexposure:**
metallic taste in mouth, hemolytic anemia, itching, skin eruptions, coughing, difficulty breathing, coma, shock

**Potential environmental effects**

**Aquatic toxicity:**
Very toxic (acute effect) to aquatic organisms. May cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from the properties of the individual components.

## 3. Composition / Information on Ingredients

| CAS Number | Content (W/W) | Hazardous ingredients |
|---|---|---|
| 1344-28-1 | 75.0 - 85.0 % | Aluminum oxide |
| 7447-39-4 | 5.0 - 10.0 % | copper dichloride |
| | 1.0 - 5.0 % | Proprietary Additive |

## 4. First-Aid Measures

**General advice:**
Remove contaminated clothing.

**If inhaled:**
Keep patient calm, remove to fresh air. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

**If on skin:**
Wash thoroughly with soap and water. Consult a doctor if skin irritation persists.

**If in eyes:**
In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Hold eyelids open to facilitate rinsing. Immediate medical attention required.

**If swallowed:**
If person is conscious and can swallow, give two glasses of water. If vomiting occurs, keep head lower than hips to prevent aspiration. Immediate medical attention required.

**Note to physician**
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## 5. Fire-Fighting Measures

| | |
|---|---|
| Flash point: | not applicable |
| Autoignition: | not applicable |

| | |
|---|---|
| Lower explosion limit: | not applicable |
| Upper explosion limit: | not applicable |
| Self-ignition temperature: | not self-igniting |

**Suitable extinguishing media:**
carbon dioxide, dry powder, foam, water spray

**Additional information:**
Use extinguishing measures to suit surroundings.

**Hazards during fire-fighting:**
toxic vapours
The substances/groups of substances mentioned can be released if the product is involved in a fire.

**Protective equipment for fire-fighting:**
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

**Further information:**
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

In case of fire and/or explosion do not breathe fumes.

## 6. Accidental release measures

**Personal precautions:**
Avoid dust formation. Do not breathe dust. Avoid contact with the skin, eyes and clothing. Use personal protective clothing. Information regarding personal protective measures see, chapter 8.

**Environmental precautions:**
Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

**Cleanup:**
Contain spillage. Sweep up or vacuum small pieces and dusts and place in appropriate container for disposal. Avoid raising dust. Reclaim for processing if possible.

## 7. Handling and Storage

Handling

**General advice:**
Keep container tightly closed. Avoid dust formation. Avoid inhalation of dusts. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing.

**Protection against fire and explosion:**
The product does not contribute to the spreading of flames, nor is it self combustible, not explosive.

Storage

**General advice:**
Keep container tightly closed in a cool, well-ventilated place. Keep container dry.

**Storage incompatibility:**
General advice: Segregate from incompatible substances.

**Storage stability:**
Storage temperature: <= 35 °C

## 8. Exposure Controls and Personal Protection

**Components with workplace control parameters**

| | | | |
|---|---|---|---|
| Aluminum oxide | Exposure limits | TWA value | 10 mg/m3 ; |

**Advice on system design:**
Provide local exhaust ventilation to maintain recommended P.E.L. Ensure adequate ventilation.

**Personal protective equipment**

**Respiratory protection:**
Wear appropriate certified respirator when exposure limits may be exceeded. Wear a NIOSH-certified (or equivalent) particulate respirator.

**Hand protection:**
Wear chemical resistant protective gloves.

**Eye protection:**
Safety glasses with side-shields.

**Body protection:**
Impermeable protective clothing, Body protection must be chosen based on level of activity and exposure.

**General safety and hygiene measures:**
Avoid contact with the skin, eyes and clothing. Avoid inhalation of dust. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

## 9. Physical and Chemical Properties

| | | |
|---|---|---|
| Form: | powder | |
| Odour: | acidic | |
| Odour threshold: | No data available. | |
| Colour: | light green | |
| pH value: | | not applicable |
| Bulk density: | 1,000 kg/m3 | |
| Partitioning coefficient n-octanol/water (log Pow): | | The value has not been determined because the substance is inorganic. |
| Solubility in water: | | partly soluble |

## 10. Stability and Reactivity

**Conditions to avoid:**
Temperature: > 250 degrees Celsius
Avoid extreme heat.
Avoid dust formation.

**Substances to avoid:**
strong oxidizing agents

**Hazardous reactions:**
The product is stable if stored and handled as prescribed/indicated.
May react with acetylene gas with formation of shock sensitive solid.

**Decomposition products:**
Possible decomposition products: chlorine compounds, metallic oxides

**Thermal decomposition:**
200 °C

No decomposition if correctly stored and handled.

**Oxidizing properties:**
not fire-propagating

## 11. Toxicological information

**Acute toxicity**

*Information on: copper dichloride*
*Assessment of acute toxicity:*
*Of high toxicity after single ingestion.*

**Oral:**
Type of value: LD50
Species: rat (male/female)
Value: > 200 mg/kg (OECD Guideline 420)
Analogous: Assessment derived from products with similar chemical character.
No mortality was observed.

*Information on: Aluminum oxide*
*Type of value: LD50*
*Species: rat*
*Value: > 5,000 mg/kg (OECD Guideline 401)*

*Information on: copper dichloride*
*Type of value: LD50*
*Species: rat*
*Value: 140 mg/kg*

*Information on: Proprietary Additive*
*Type of value: LD50*
*Species: rat*
*Value: 4,184 mg/kg*

**Dermal:**
Type of value: LD50
Species: rabbit (male/female)
Value: > 1,000 mg/kg (OECD Guideline 402)
Analogous: Assessment derived from products with similar chemical character.
No mortality was observed.

**Irritation / corrosion**

*Information on: copper dichloride*
*Assessment of irritating effects:*
*Eye contact causes irritation. Skin contact causes irritation.*

*Information on: Proprietary Additive*
*Assessment of irritating effects:*
*May cause severe damage to the eyes. Skin contact causes irritation.*

**Skin:**
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Analogous: Assessment derived from products with similar chemical character.

*Information on: Proprietary Additive*
*Species: rabbit*
*Result: Slightly irritating.*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*
*Species: rabbit*
*Result: Irritant.*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

*Information on: copper dichloride*
*Species: rabbit*
*Result: Slightly irritating.*
*Method: OECD Guideline 404*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

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**Eye:**

*Information on: copper dichloride*
*Species: rabbit*
*Result: Irritant.*
*Method: OECD Guideline 405*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

*Information on: Proprietary Additive*
*Species: rabbit*
*Result: Risk of serious damage to eyes.*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

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**Other Information:**

The product has not been tested. The statement has been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

## 12. Ecological Information

**Fish**

*Information on: Aluminum oxide*
*Acute:*
*Fish test acute semistatic*
*Pimephales promelas/LC50 (96 h): > 218.64 mg/l*
*The product has not been tested. The statement has been derived from products of a similar structure or composition. Tested above maximum solubility.*

*Information on: copper dichloride*
*Acute:*
*Directive 92/69/EEC, C.1 static*
*Oncorhynchus mykiss/LC50 (96 h): 1.016 mg/l = equivalent to 0,48 mg/L Cu2+*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

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**Aquatic invertebrates**

*Information on: Aluminum oxide*
*Acute:*
*OECD Guideline 202, part 1 static*
*Daphnia magna/No observed effect concentration (48 h): > 100 mg/l*
*Tested above maximum solubility. The details of the toxic effect relate to the nominal concentration.*

*Information on: copper dichloride*
*Acute:*
*Directive 92/69/EEC, C.2 static*
*Daphnia magna/EC50 (48 h): 0.063 mg/l = equivalent to 0,03 mg/L Cu2+*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

*Information on: Proprietary Additive*
*Acute:*
*OECD Guideline 202, part 1 static*
*Daphnia sp./EC50 (48 h): 0.087 mg/l = equivalent to 0,049 mg/L La3+*
*The statement of the toxic effect relates to the analytically determined concentration. The study was carried out in soft water.*

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**Aquatic plants**

*Information on: Aluminum oxide*
*Toxicity to aquatic plants:*
*OECD Guideline 201 static*
*green algae/No observed effect concentration (72 h): > 100 mg/l*
*Tested above maximum solubility. The details of the toxic effect relate to the nominal concentration.*

*Information on: copper dichloride*
*Toxicity to aquatic plants:*
*Guideline 92/69/EEC, C.3 static*
*green algae/EC50 (72 h): 0.381 mg/l = equivalent to 0,18 mg/L Cu2+*
*The product has not been tested. The statement has been derived from products of a similar structure or composition.*

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**Degradability / Persistence**
**Biological / Abiological Degradation**

Evaluation: Not applicable for inorganic substances.

**Other adverse effects:**

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

## 13. Disposal considerations

**Waste disposal of substance:**
Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. Dispose of in accordance with local authority regulations. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary). Used catalysts may have different hazardous properties than the original products. This SDS does NOT apply to used catalysts when the product characteristics are not identical to the ones of the title product.

**Container disposal:**
Dispose of in accordance with national, state and local regulations. Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

## 14. Transport Information

**Land transport**
TDG

| | |
|---|---|
| Hazard class: | 9 |
| Packing group: | III |
| ID number: | UN 3077 |
| Hazard label: | 9, EHSM |
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains COPPER DICHLORIDE) |

**Sea transport**
IMDG

| | |
|---|---|
| Hazard class: | 9 |
| Packing group: | III |
| ID number: | UN 3077 |
| Hazard label: | 9, EHSM |
| Marine pollutant: | YES |
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains COPPER DICHLORIDE) |

**Air transport**
IATA/ICAO

| | |
|---|---|
| Hazard class: | 9 |
| Packing group: | III |
| ID number: | UN 3077 |
| Hazard label: | 9, EHSM |
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains COPPER DICHLORIDE) |

## 15. Regulatory Information

**Federal Regulations**

Not applicable

## 16. Other Information

**NFPA Hazard codes:**
Health : 1 Fire: 0 Reactivity: 0 Special:

**HMIS III rating**
Health: 1¤ Flammability: 0 Physical hazard: 0

NFPA and HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria. The NFPA system was developed to provide an

on-the-spot alert to the hazards of a material, and their severity, to emergency responders. The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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**MSDS Prepared by:**
BASF NA Product Regulations
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MSDS Prepared on: 2011/08/19


END OF DATA SHEET